UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,859	06/21/2001	Hoang Tan Tran	0063-026001	6112

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EXAMINER
YANCHUS III, PAUL B

ART UNIT	PAPER NUMBER
2116	

NOTIFICATION DATE	DELIVERY MODE
12/30/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	**Applicant(s)**
Office Action Summary	09/886,859	TRAN ET AL.
	Examiner	**Art Unit**	
	PAUL B. YANCHUS III	2116	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

    A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>12 October 2009</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-24</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-24</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
        1. ☐ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____.
        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This non-final office action is in response to amendments filed on 10/12/09.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 11-17 and 23-24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bar-Niv, US Patent no. 6,442,142[1], in view of Bremer et al., US

Patent no. 7,058,833 [Bremer].

Regarding claims 1 and 13, Bar-Niv teaches a method and apparatus for

regulating transceiver power consumption in a communications network comprising:

monitoring data [incoming pulses] received by the transceiver to detect the

presence or absence of a received data signal [column 1, lines 57-67]; and

controlling a transceiver state machine [energy-on state machine] to regulate

transceiver power consumption in response to the presence or absence of the data

received [column 2, lines 32-49].

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[1] Cited in prior office action.

wherein the transceiver state machine includes at least one of a wake-up control and a power down control, the wake-up control being configured to send power control signals to a transmitter and the power down control being configured to send power control signals to all components of the transceiver [when the ENERGYON signal is at a first level, the transceiver circuitry is awake and when the ENERGYON signal is at a second level, the transceiver circuitry is powered down, column 6, lines 27-31].

Bar-Niv does not disclose a first separate control element for sending power control signals to the transmitter and a second separate control element for sending power control signals to all other components of the transceiver.   Bremer discloses a transceiver including a power manager having a first separate control element for sending power control signals to the transmitter [Element 134 in Figure 6] and a second separate control element for sending power control signals to transmitter signal generating circuitry of the transceiver [Element 132 in Figure 6 and column 8, lines 9-32 and 42-61]. It would have been obvious to modify the Bar-Niv transceiver by incorporating separate power control elements for the transmitter and the other components of the transceiver in order to reduce unnecessary power consumption of the transmitter by delaying the activation of the transmitter in accordance with the time required for a signal for transmission to propagate through the other transceiver circuitry before reaching the transmitter [Bremer, column 8, lines 42-61].

Regarding claims 2 and 14, Bar-Niv teaches monitoring data received during a time period of normal operating power consumption [106 in Figure 4 and column 6, lines 11-15 and 29-32, power is supplied to transceiver circuitry when ENERGYON is

at level 1] and upon detecting the absence of a received signal for the first predetermined time [256 ms], controlling the transceiver state machine to regulate transceiver power consumption to be at minimized operating power [104 in Figure 4 and column 6, lines 16-20 and 29-32, transceiver circuitry is powered down when ENERGYON is at level 0].

Regarding claims 3 and 15, Bar-Niv teaches monitoring data received during a time period of normal operating power consumption [106 in Figure 4 and column 6, lines 11-15 and 29-32, power is supplied to transceiver circuitry when ENERGYON is at level 1], and upon detecting the presence of a received signal [LINK_ON] for the first predetermined time, controlling the transceiver state machine to regulate transceiver power consumption to be at normal operating power [100 in Figure 4 and column 6, lines 11-19 and 29-32, power is supplied to transceiver circuitry when ENERGYON is at level 1].

Regarding claims 4 and 16, Bar-Niv teaches monitoring data received includes comparing a received data signal [differential voltage, column 4, lines 25-46] from the communications network with a reference signal [300 mV, column 4, lines 25-46] and controlling the transceiver state machine when a magnitude of the received data signal exceeds the reference signal [column 2, lines 50-67].

Regarding claims 5 and 17, Bar-Niv teaches monitoring data received during a time period of minimized operating power consumption [104 in Figure 4 and column 6, lines 16-20 and 29-32, transceiver circuitry is powered down when ENERGYON is at level 0], and upon detecting the absence of a received signal for the first predetermined

time, controlling the transceiver state machine to regulate transceiver power

consumption to be at minimized operating power [104 in Figure 4 and column 6, lines

21-32, transceiver circuitry is powered down when ENERGYON is at level 0].

     Regarding claims 11 and 23, Bar-Niv teaches monitoring data received during a

time period of minimized power consumption [104 in Figure 4 and column 6, lines 16-

20 and 29-32, transceiver circuitry is powered down when ENERGYON is at level 0],

and upon detecting the presence of a received signal for a predetermined standby

time, controlling the transceiver state machine to regulate transceiver power

consumption to be at normal operating power [100 in Figure 4 and column 6, lines 21-

32, power is supplied to transceiver circuitry when ENERGYON is at level 1].

     Regarding claims 12 and 24, Bar-Niv teaches monitoring data received during a

time period of minimized power consumption [104 in Figure 4 and column 6, lines 16-

20 and 29-32, transceiver circuitry is powered down when ENERGYON is at level 0],

and upon detecting the presence of a received signal for a second predetermined time

subsequent to the predetermined standby time, controlling the transceiver state

machine to regulate transceiver power consumption to be at minimized operating

power [100 in Figure 4 and column 6, lines 21-32, power is supplied to transceiver

circuitry when ENERGYON is at level 1].

Claims 6-10 and 18-22 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bar-Niv, US Patent no. 6,442,142[2] and Bremer et al., US Patent no.

7,058,833 [Bremer]. in view of, Uppunda et al., US Patent no. 6,678,728[3].

Regarding claims 6 and 18, Bar-Niv and Bremer, as described above, teach a

method and apparatus for regulating transceiver power consumption in a

communications network. Bar-Niv and Bremer do not teach controlling the transceiver

to transmit link determination signals to devices on the communications network when

the transceiver is in a power-down mode. Uppunda et al. teaches transmitting link

signals [keep-alive packets, column 1, lines 25-29 and column 3, lines 40-42] to other

devices on the network while in a powered down state [sleep state, column 1, lines 20-

29 and column 3, lines 40-42].

It would have been obvious to one of ordinary skill in the art to combine the

teachings of Bar-Niv and Bremer with Uppunda et al. Periodically transferring link

signals from a first device that is in a sleep state to other devices on the network

indicates to the other devices on the network that the first device is still connected to

the network, even though it is idle [Uppunda et al., column 1, lines 20-29].

Regarding claims 7 and 19, Uppunda et al., as described above, teaches

periodically transferring link signals to other devices on the network while in a sleep

state. Uppunda et al. further teaches exiting the sleep state only when wake up

packets are received from other devices on the network [column 3, lines 48-56].

Therefore, Uppunda et al. teaches transmitting link signals to other devices on the

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[2] Cited in prior office action.

network while in a sleep mode and then remaining in sleep mode if no wake packets have been received from the network.

Regarding claims 8 and 20, Uppunda et al., as described above, teaches that, when in sleep mode, a first device periodically sends link signals to other devices on the network to indicate that it is still connected to the network. Uppunda et al. further teaches that before transferring data to the first device from a second device on the network, the second device must check that the first device is connected to the network [column 1, lines 12-25]. The second device only sends data to the first device when it is determined that the first device is connected to the network. Since the link signals are used to indicate to the network that the first device is connected to the network, the second device would send data to the first device in response to the link signals.

Regarding claims 9 and 21, Uppunda et al., as described above, teaches periodically transferring link signals to other devices on the network while in a sleep state. Uppunda et al. further teaches exiting the sleep state when wake up packets are received from other devices on the network [column 3, lines 48-56]. Therefore, Uppunda et al. teaches transmitting link signals to other devices on the network while in a sleep mode and then exiting the sleep mode when wake packets have been received from the network.

Regarding claims 10 and 22, Uppunda et al., as described above, teaches that, when in sleep mode, a first device periodically sends link signals to other devices on the network to indicate that it is still connected to the network. Uppunda et al. further

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teaches that before transferring data to the first device from a second device on the

network, the second device must check that the first device is connected to the network

[column 1, lines 12-25]. The second device only sends data to the first device when it

is determined that the first device is connected to the network. Since the link signals

are used to indicate to the network that the first device is connected to the network, the

second device would send data to the first device in response to the link signals.

Response to Arguments

Applicant's arguments with respect to claims 1-24 have been considered but are

moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to PAUL B. YANCHUS III whose telephone number is

(571)272-3678. The examiner can normally be reached on Mon-Fri 10AM-2PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomas Lee can be reached on (571) 272-3667. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paul B Yanchus/
Examiner, Art Unit 2116

December 14, 2009
                              /Thomas Lee/
                              Supervisory Patent Examiner, Art Unit 2115